

## Title (en)

Hand held ultrasonic diagnostic instrument with digital beamformer

## Title (de)

Tragbares Ultraschall Diagnosegerät mit einem digitalen Strahlformer

## Title (fr)

Appareil ultrasonique portatif muni d'une unité numérique de formation de faisceaux

## Publication

**EP 0881492 A3 19991103 (EN)**

## Application

**EP 98304152 A 19980526**

## Priority

US 86393797 A 19970527

## Abstract (en)

[origin: EP0881492A2] A hand held ultrasonic instrument is provided in a portable unit which performs both B mode and Doppler imaging. The instrument includes a transducer array mounted in a hand-held enclosure, with an integrated circuit transceiver connected to the elements of the array for the reception of echo signals. A digital beamformer is located in the hand-held enclosure for forming ultrasonic scanlines from the echo signals received by the elements of the array. <IMAGE>

## IPC 1-7

**G01N 33/52**; **A61B 8/08**; **A61B 8/14**

## IPC 8 full level

**A61B 8/00** (2006.01); **A61B 8/14** (2006.01); **G01S 7/52** (2006.01); **G01S 7/521** (2006.01); **G01S 15/89** (2006.01); **G10K 11/00** (2006.01); **G10K 11/34** (2006.01); **A61B 8/06** (2006.01)

## CPC (source: EP KR US)

**A61B 8/00** (2013.01 - EP US); **A61B 8/14** (2013.01 - EP US); **A61B 8/4427** (2013.01 - KR); **A61B 8/5246** (2013.01 - KR); **G01S 7/52028** (2013.01 - EP US); **G01S 7/52079** (2013.01 - EP US); **G01S 7/5208** (2013.01 - EP US); **G01S 7/52095** (2013.01 - KR); **G01S 15/8915** (2013.01 - EP US); **G01S 15/892** (2013.01 - EP KR US); **G10K 11/004** (2013.01 - EP US); **G10K 11/345** (2013.01 - EP US); **A61B 8/06** (2013.01 - EP US); **A61B 8/13** (2013.01 - EP US); **A61B 8/4455** (2013.01 - EP US); **A61B 8/4494** (2013.01 - EP US); **A61B 2560/0456** (2013.01 - EP US); **G01S 15/8979** (2013.01 - EP US); **G01S 15/899** (2013.01 - EP US)

## Citation (search report)

- [XPLA] EP 0815793 A2 19980107 - ADVANCED TECH LAB [US]
- [YA] US 5590658 A 19970107 - CHIANG ALICE M [US], et al
- [Y] WO 9423421 A1 19941013 - SIEMENS MEDICAL SYSTEMS INC [US], et al
- [XAY] ARMITAGE A D ET AL: "An integrated array transducer receiver for ultrasound imaging", SENSORS AND ACTUATORS A, vol. 47, no. 1-3, 4 March 1995 (1995-03-04), pages 542-546, XP004092868, ISSN: 0924-4247
- [YA] HATFIELD J V ET AL: "HIGH FREQUENCY ULTRASONIC SCANNING SYSTEM", 38TH. MIDWEST SYMPOSIUM ON CIRCUITS AND SYSTEMS: PROCEEDINGS, RIO DE JANEIRO, AUG. 13 - 16, 1995, vol. 2, no. SYMP. 38, 13 August 1995 (1995-08-13), CALOBA L P; DINIZ P; DE QUEIROZ A; WATANABE E H (EDS ), pages 1175 - 1178, XP000825268, ISBN: 0-7803-2973-2
- [A] JOO HAN KIM ET AL: "Pipelined sampled-delay focusing in ultrasound imaging systems", ULTRASONIC IMAGING, APRIL 1987, USA, vol. 9, no. 2, pages 75 - 91, XP002113987, ISSN: 0161-7346

## Cited by

CN107106127A; US9165552B2; WO2011105593A1

## Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

## DOCDB simple family (publication)

**EP 0881492 A2 19981202**; **EP 0881492 A3 19991103**; **EP 0881492 B1 20050928**; AT E305654 T1 20051015; AU 6809998 A 19981203; AU 730822 B2 20010315; BR 9801670 A 19990601; CN 1212146 A 19990331; CN 1231183 C 20051214; DE 69831698 D1 20060209; DE 69831698 T2 20060706; ES 2251057 T3 20060416; JP H1156838 A 19990302; KR 19980087413 A 19981205; NO 326202 B1 20081020; NO 982389 D0 19980526; NO 982389 L 19981130; US 5817024 A 19981006

## DOCDB simple family (application)

**EP 98304152 A 19980526**; AT 98304152 T 19980526; AU 6809998 A 19980525; BR 9801670 A 19980520; CN 98108973 A 19980526; DE 69831698 T 19980526; ES 98304152 T 19980526; JP 14637398 A 19980527; KR 19980019208 A 19980527; NO 982389 A 19980526; US 86393797 A 19970527